

Accommodations Toolkit

Manipulatives: States' Accessibility Policies, 2023



This summary of states' accessibility policies for **manipulatives** is part of the *Accommodations Toolkit* published by the National Center on Educational Outcomes (NCEO)[[1](#)]. The toolkit also contains a [summary of the research literature on manipulatives \(/nceo/accommodations-toolkit/manipulatives-research\)](#).

Accessibility policies often have several tiers of accessibility features: universal features, designated features, and accommodations.[[2](#)] Figure 1 summarizes how states included manipulatives in their accessibility policies for students with disabilities in 2023. Figure 2 summarizes how states included manipulatives in their accessibility policies for English learners in 2023. Table 1 shows how manipulatives was included in the policies, while Table 2 contains additional details and specifications.

Figure 1. States' Accessibility Policies for Students with Disabilities for Manipulatives, 2023

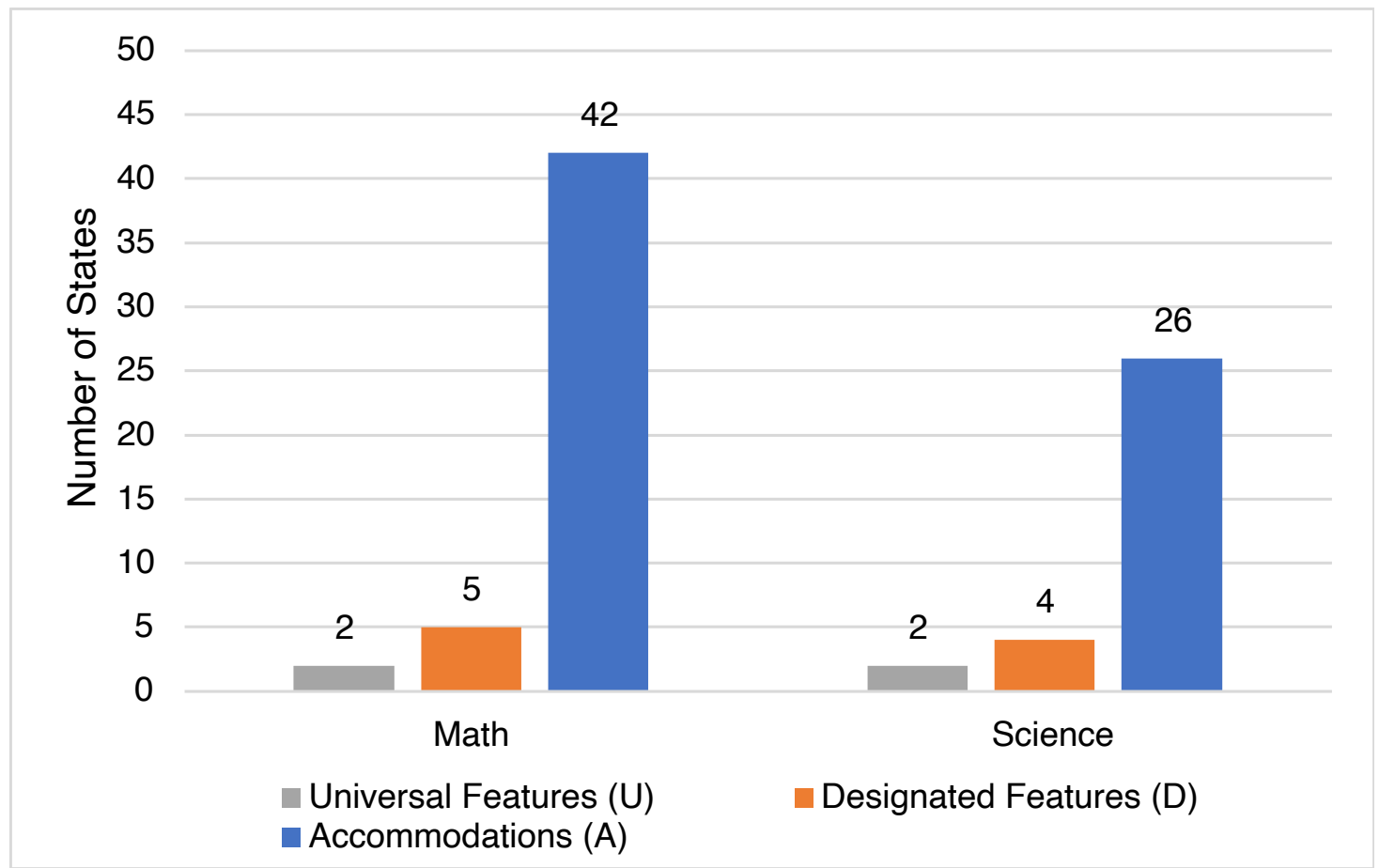


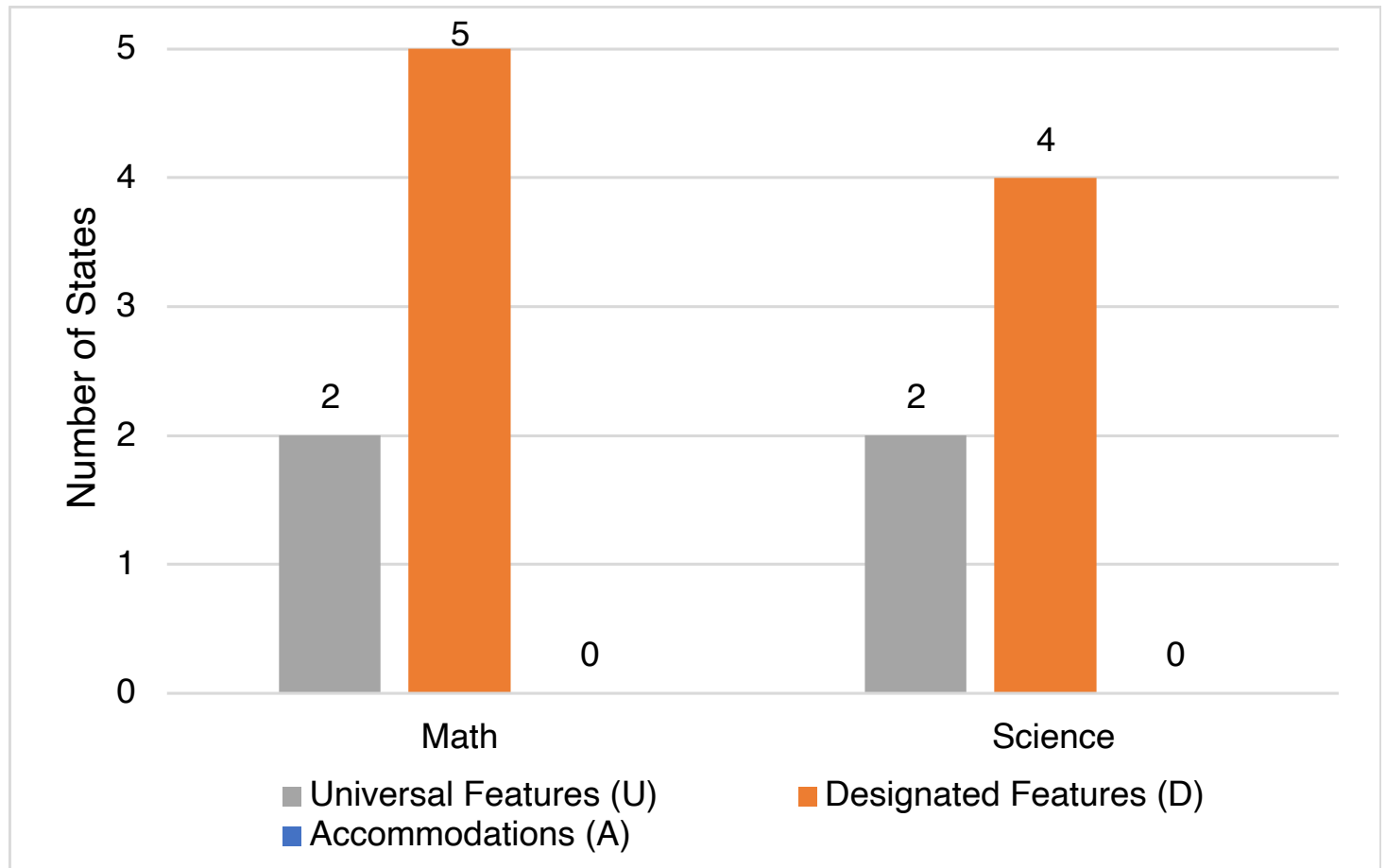
Figure 2. States' Accessibility Policies for English Learners for Manipulatives, 2023

Table 1. Accommodations Policies for Manipulatives by State, 2023

U = Universal Feature, D = Designated Feature, A = Accommodation, ELA = English Language Arts, X = Allowed, SD = Prohibited, Blank cell = no policy found, N = Notes in Table 2

State	Math			Science
	U	D	A	U
Alabama	X			X
Alaska			SD	
Arizona			SD	
Arkansas			SD	
California			SD	
Colorado			SD	
Connecticut			SD	
Delaware		X	SD	
District of Columbia			SD	

Florida			SD	
Georgia			SD	
Hawaii			SD	
Idaho			SD	
Illinois			SD	
Indiana				
Iowa			SD	
Kansas				
Kentucky			SD	
Louisiana			SD	
Maine		X		
Maryland			SD	
Massachusetts			SD	
Michigan			SD	

Minnesota	X		SD	
Mississippi				
Missouri			SD	
Montana			SD	
Nebraska			SD	
Nevada			SD	
New Hampshire			SD	
New Jersey			SD	
New Mexico			SD	
New York			SD	
North Carolina			SD	
North Dakota		X		
Ohio			SD	

Oklahoma			SD	
Oregon		X		
Pennsylvania			SD	
Rhode Island			SD	X
South Carolina				
South Dakota			SD	
Tennessee			SD	
Texas		X		
Utah			SD	
Vermont			SD	
Virginia			SD	
Washington			SD	
West Virginia			SD	

Wisconsin			SD	
Wyoming			SD	
Total (Students with Disabilities)	2	5	42	2
Total (English Learners)	2	5	0	2

Note: Blank cell = no policy found

Table 2. Details and Specifications: States' Manipulatives Accessibility Policies

State	Details/Specifications
Alabama	Accessibility Support (Universal Feature): Abacus: Students with a visual impairment who regularly use an abacus may use this device in place of using scratch paper. Setting: Large group, small group, or individual. Set Up: The student can test with other online testers in a large group setting. The school or district is responsible for providing the Abacus, and it must be a support the student uses regularly in the classroom. The tests are timed.
Alaska	Accommodation (Math): Math manipulatives: Student use of physical objects for math items. Multiplication tables and number lines may be used on select sections of the math assessment where calculators are allowed. See Assessment Calculator Policy. See the Handbook for the Participation Guidelines for list of additional allowable and non-allowable math manipulatives.
Arizona	Accommodation: Abacus: Students may use an abacus without restrictions for any Math test. For students taking the Braille test ONLY.
Arkansas	Accommodation: Abacus Definition: An instrument for performing calculations by sliding counters along rods or in grooves. Recommended Usage: Examinees with visual impairments. Notes: This accommodation may only be used for the mathematics test. Extra testing time may be needed when providing this accommodation.
California	Accommodation: Abacus: A student who typically uses an abacus can use an abacus in place of scratch paper.

Colorado**Accommodation:**

Talking calculator/abacus/tactile math manipulatives: The talking calculator/abacus/tactile math manipulatives accommodation is available only to students with an IEP or 504 plan with a documented diagnosis of blindness/visual impairment. Assess students who use a talking calculator in a separate testing environment. The student uses the calculator or abacus used during daily instruction on all units of the science assessment and the calculator sections/units of the math assessment.

- Computer-based assessment: Talking calculator or abacus is used in place of the embedded calculator in TestNav.
- Paper-based assessment: The student's work on the abacus (or braille) is recorded in the test book by the Test Administrator for constructed response items. All extra/adaptive papers used by the student during the assessment are secure materials. Return extra/adaptive papers to the SAC for secure destruction.

Connecticut**Accommodation:**

Abacus: This tool may be used in place of scratch paper for students who typically use an abacus during instruction as documented in the student's IEP or Section 504 Plan. This accommodation is available for the Smarter Balanced Mathematics and NGSS Assessment.

Manipulatives (Special Documented Accommodations): Math manipulatives are available on the Smarter Balanced Math Assessments to allow eligible students to use concrete mathematical tools strategically to support their decision making. Math manipulatives may be requested via the petition process for students using this accommodation in daily instruction as indicated in their Individualized Education Program (IEP) or Section 504 Plan. Students eligible for this special documented accommodation are typically identified as students with visual disabilities or math-related disabilities, such as dyscalculia, and are typically students with Learning Disabilities, Autism, Visual Impairments, or Intellectual Disabilities. Refer to the Math Manipulatives brochure for details. The petition application must include a description of the math manipulative(s) used in instruction and assessment, the submission of the IEP or Section 504 Plan, as well as additional documented evidence of the math-related disability, such as a recent Educational/Psychological evaluation or Mathematics Assessments. Upon approval, specific guidance will be provided about administering the math assessment using this specific special documented accommodation. Guidance includes, but is not limited to, the requirement that the student:

- is tested separately from other students not using manipulatives during assessment;
- uses manipulatives that are consistent with those used during instruction and that the manipulatives are made available in an organized manner; and
- selects and uses the manipulative(s) independently without teacher prompting or direction.

The use of this special documented accommodation may require the student to be provided additional time for participation in the Smarter Balanced Assessment.

Delaware	Designated Feature: Abacus: Some students, including students with visual impairments or with documented processing impairments, who typically use an abacus may use an abacus in place of using scratch paper. Accommodation (Math): Math manipulatives: Available for students who are tactile learners or who have a documented need through an IEP or 504 Plan and use manipulatives to solve math tasks during classroom instruction. Manipulatives should not have any markings such as marked fraction blocks. Possible suggestions include: straws, unifix cubes, counting bears, etc. Must Review Appendix A-12: Math Manipulatives Guidance
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District of Columbia

Accommodation:

Calculation device and mathematics tools (on non-calculator sections of mathematics assessments):

Before Testing:

- Purpose: The purpose of the calculation device on the non-calculator sections accommodation is to provide access for students with a disability that severely limits or prevents their ability to perform basic calculations (i.e., student is unable to perform single-digit addition, subtraction, multiplication, or division). For these students, a calculation device may be used on the non-calculator AND calculator sections of the mathematics assessments. The IEP or 504 plan must specify which device(s) or manipulatives.
- Identification for SR/PNP: Student's SR/PNP must have Calculation Device and Mathematics Tools on non-calculator sections selected. Manipulatives may require state assessment office approval, depending on state policies.
- Materials:
 - Hand-held calculator.
 - Allowable calculators for the calculator accommodation on non-calculator sections:
 - Grades 3–7: Four-Function with square root and percentage functions.
 - Grade 8: Scientific calculators (Student may also bring a four-function with square root and percentage functions in addition to grade-level calculator).
 - High School: Graphing calculators with functionalities consistent with TI-84 or similar models. (Student may also bring a scientific calculator or a four-function with square root and percentage functions).
 - Allowable mathematics tools include:
 - Arithmetic tables (e.g., addition charts, subtraction charts, multiplication charts, division charts).
 - Two-color chips (e.g., single-sided or double-sided).
 - Counters and counting chips.
 - Square tiles.
 - Base 10 blocks.
 - 100s chart.
 - A student with a visual impairment may need other mathematics tools, such as a large print ruler (embedded PARCC ruler is designed in 18 point font), braille ruler, tactile compass, or braille protractor. Note that braille mathematics kits will include the appropriate grade-level braille ruler and braille protractors.

During Testing: A student uses a calculation device (e.g., four-function calculator, large key, or other adapted calculator), arithmetic table (including addition/subtraction and/or multiplication/division charts), and/or manipulatives (IEP or 504 plan must specify which device or manipulative) on the NON-CALCULATOR SECTIONS of the mathematics assessments. If a talking calculator is used, the student must use headphones or be tested in a separate setting.

Important Guidelines for identifying students to receive this accommodation: IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying students to receive this accommodation. If all guidelines are NOT met, and the student is given Calculation Device and Mathematics Tools without proper documentation, the student's assessment score may be invalidated and the score would not be counted in the overall assessment results (i.e., the student would be considered a "non-participant" for the mathematics assessment.)

In making decisions whether to provide the student with this accommodation, IEP teams and 504 Plan Coordinators should consider whether the student has:

- A disability that severely limits or prevents the student's ability to perform basic calculations (i.e., single-digit addition, subtraction, multiplication, or division), even after varied and repeated attempts to teach the student to do so.

Before listing the accommodation in the student's IEP/504 plan, teams should also consider whether:

- The student is unable to perform calculations without the use of a calculation device, arithmetic table, or manipulative during routine instruction.
- The student's inability to perform mathematical calculations is documented in evaluation summaries from locally-administered diagnostic assessments.
- The student receives ongoing, intensive instruction and/or interventions to learn to calculate without using a calculation device, in order to ensure that the student continues to learn basic calculation and fluency.

For a student who receives this accommodation, no claims should be inferred regarding the student's ability to perform basic mathematical calculations without the use of a calculator.

Florida	Accommodation: A student with a visual impairment may use an abacus and products such as the Graphic Aid for Mathematics, Math Window®, and the geoboard. These devices are approved substitutes for paper-and-pencil computation. Manipulative materials, including but not limited to counters, base-10 blocks, clock faces, or geometric shapes may not be used except when approved by FDOE for use with braille test materials. Real coins may be used to represent coins depicted in test items. Coins may not be used as counting devices.
Georgia	Accommodation: Abacus: Allowed for students with visual impairments only.

Hawaii	Designated Feature (Science): Abacus: This tool may be used in place of scratch paper for students who typically use an abacus to perform math calculations. Some students, including students with visual impairments or with documented processing impairments, who typically use an abacus may use an abacus in place of using scratch paper. (This same support is considered an accommodation for the Smarter Balanced math assessment.) Accommodation (Math): Abacus: This tool may be used in place of scratch paper for students who typically use an abacus. Some students, including students with visual impairments or with documented processing impairments, who typically use an abacus may use an abacus in place of using scratch paper. Math Manipulatives: The Math Manipulatives (MMs) accommodations allow students to represent their understanding of mathematical concepts using visual and tactile concrete materials. This is the list of approved non-embedded math manipulatives that may be provided on-site: Algebra Tiles (recommended for Grade 6 and above), Base Ten Blocks, Colored Tiles, Geoblocks Set, Geoboards and Geobands, Multi-Link Cubes, Pop Cubes, or Similar Cubes, Multi-Sensory Learning (MSL) Kit, OneInch Blocks, Pattern Blocks, Transparent Sheets, and Two-Color Counters. Other MMs accommodations not listed can be requested for verification. Recommendations for use: • Students who use MM(s) to solve math tasks during classroom instruction and/or assessments. • MMs must not have numbers, formulas, or other features that might compromise the math constructs being measured. • Up to four MMs may be selected for use on the math test and Algebra EOC exams. • Refer to the Guidance Brief: IEP/504 Teams Considering the Math Manipulatives (MMs) State Test Temporary Accommodations for information on the use, administration and verification of MMs for state testing.
Idaho	Accommodation: Abacus: This tool may be used in place of scratch paper for students who typically use an abacus. Some students, including students with visual impairments or with documented processing impairments, who typically use an abacus may use an abacus in place of using scratch paper.

Illinois**Accommodation (Math):**

Calculation device and mathematics tools (on non-calculator sections of mathematics assessments):

Before Testing:

- Purpose: The purpose of the calculation device on the non-calculator sections accommodation is to provide access for students with a disability that **severely limits or prevents** their ability to perform basic calculations (i.e., student is unable to perform single-digit addition, subtraction, multiplication, or division). For these students, a calculation device may be used on the non-calculator AND calculator sections of the mathematics assessments. The IEP, ISP, or 504 plan must specify which device(s) or manipulatives.
- Identification for SR/PNP: Student's SR/PNP must have Calculation Device and Mathematics Tools on non-calculator sections selected. Manipulatives may require state assessment office approval, depending on policies.
- Materials:
 - Hand-held calculator.
 - Allowable calculators for the calculator accommodation on non-calculator sections:
 - Grades 3–5: Four-function with square root and percentage functions.
 - Grades 6–7: Four-function with square root and percentage functions.
 - Grade 8: Scientific calculators (Student may also bring a four-function with square root and percentage functions in addition to grade-level calculator).
 - Allowable mathematics tools include:
 - Arithmetic tables (e.g., addition charts, subtraction charts, multiplication charts, division charts).
 - Two-color chips (e.g., single-sided or double-sided).
 - Counters and counting chips.
 - Square tiles.
 - Base 10 blocks.
 - 100s chart.
 - A student with a visual impairment may need other mathematics tools, such as a large print ruler (embedded ruler is designed in 18 point font), braille ruler, tactile compass, or braille protractor. Note that braille mathematics kits will include the appropriate grade-level braille ruler and braille protractors.

During Testing: A student uses a calculation device (e.g., four-function calculator, large key, or other adapted calculator), arithmetic table (including addition/subtraction and/or multiplication/division charts), and/or manipulatives (IEP, ISP, or 504 plan must specify which device or manipulative) on the ***NON-CALCULATOR SECTIONS*** of the mathematics assessments. If a talking calculator is used, the student must use headphones or be tested in a separate setting.

Important Guidelines for identifying students to receive this accommodation: IEP teams, ISP teams, and 504 Plan Coordinators should carefully review the following guidelines before identifying students to receive this accommodation. If all guidelines are NOT met, and the student is given Calculation Device and Mathematics Tools without proper documentation, the student's assessment score may be invalidated and the score would not be counted in the overall assessment results (i.e., the student would be considered a "non-participant" for the mathematics assessment.)

In making decisions whether to provide the student with this accommodation, IEP teams, ISP teams, and 504 Plan Coordinators should consider whether the student has:

- A disability that ***severely limits or prevents*** the student's ability to perform basic calculations (i.e., single-digit addition, subtraction, multiplication, or division), even after varied and repeated attempts to teach the student to do so.

Before listing the accommodation in the student's IEP/ISP/504 plan, teams should also consider whether:

- The student is unable to perform calculations without the use of a calculation device, arithmetic table, or manipulative during routine instruction.
- The student's inability to perform mathematical calculations is documented in evaluation summaries from locally-administered diagnostic assessments.
- The student receives ongoing, intensive instruction and/or interventions to learn to calculate without using a calculation device, in order to ensure that the student continues to learn basic calculation and fluency.

For a student who receives this accommodation, no claims should be inferred regarding the student's ability to perform basic mathematical calculations without the use of a calculator.

Iowa

Accommodation:

Abacus: An abacus may be provided in place of scratch paper. Recommendations for use: Students with visual impairments who typically use an abacus may be provided this accommodation.

Kentucky**Accommodation:**

Manipulatives: If a student has manipulatives marked on their student plan and have used them throughout the school year, they may use the manipulatives on the test if they are considered appropriate for a state assessment (free of content, no guidance to a response). Any student that receives this accommodation should be tested in a one-to-one environment. The manipulatives should be placed at a central location that is not on the student's direct testing surface. Students cannot be prompted to use manipulatives once the test has commenced. The proctor can, however, prior to testing begins show the student where the manipulatives are located so they are aware they are available and where to find the manipulatives. Manipulatives must be free of content of any kind when first presented to the student. This includes any numbers, letters, pictures, sketches or designs that can be considered content.

Examples of Manipulatives include:

- Base 10 Blocks
- Fraction Strips
- Blank Number Lines
- Abacus
- 3x5 Notecard

Tips or things to consider when providing manipulatives as an accommodation:

1. BACs should consider the optimal room setup to provide manipulatives as an accommodation. There must be a separate workspace for the manipulatives as the manipulatives cannot be placed directly on a student's desk. The proctor must also have easy access to both areas as a test administrator so that the proctor can provide active monitoring.
2. Make sure to provide all manipulatives a student is to receive available to the student on test day as their student plan dictates. If a student has 20 manipulatives listed on their student plan but only routinely uses six during instruction, all 20 still must be provided on test day.
3. The important thing to remember about manipulatives is that the manipulatives are only to serve as a trigger for information the student already possesses. The role of a manipulative is never to teach or provide answers to the test being taken.

Louisiana**Accommodation (Math):**

Calculation device and math tools (for non-calculator sections of mathematics assessments):

Paper-based testing: Students who have a calculator accommodation may be provided a handheld calculator during the non-calculator and calculator sessions of the test. Before

Testing: Students must be provided a hand-held calculator. The Calculator Use accommodation must be bubbled in either the Special Education Student Accommodation(s) field or the Test Accommodation(s) for Students with Disabilities According to Section 504 field on the student's answer document.

Computer-based testing: For all calculator sessions of the test, students will have access to the online calculator. Students may also be provided a hand-held calculator during the non-calculator sessions of the test. Before Testing: Students must be provided a hand-held calculator, if appropriate. The Calculator accommodation must be activated within the student's Accommodations tab within eDIRECT for the math content area.

General notes:

The purpose of the calculation device on the non-calculator sections accommodation is to provide access for students with a disability that severely limits or prevents their ability to perform basic calculations, including an inability to perform single-digit addition, subtraction, multiplication, or division). For these students, a calculation device may be used on the non-calculator AND calculator sections of the mathematics assessments. The IEP or 504 plan must specify which device(s) or manipulatives. The specified calculator must be aligned with the calculator policies. Manipulatives may require state assessment office approval. Manipulatives may not subvert the construct of the assessment. Calculator policies are located in the Math Assessment Structure section in the assessment library.

Allowable calculators for the calculator accommodation on non-calculator sections:

- Grades 3–5: Four-function with square root and percentage functions.
- Grades 6–7: Four-function with square root and percentage functions.
- Grade 8: Scientific calculators must not have graphing capabilities
- High School: Graphing calculators with functionalities consistent with TI-84 or similar models. (Student may also bring a scientific calculator or a four-function with square root and percentage functions).

Allowable mathematics tools include:

- Arithmetic tables (e.g., addition charts, subtraction charts, multiplication charts, division charts).

	• Two-color chips (e.g., single-sided or double-sided) • Counters and counting chips • Square tiles • Base 10 blocks • 100s chart Those tools are only allowable for students who have a disability that severely limits or prevents their ability to perform basic calculations, including an inability to perform single-digit addition, subtraction, multiplication, or division. However, mathematics tools may not subvert the construct of the assessment. A visual impairment student may need other mathematics tools, such as a large print ruler (embedded LEAP 2025 ruler is designed in 18-point font), braille ruler, tactile compass, or braille protractor. Important Guidelines for identifying students to receive Calculation Device and Mathematics Tools accommodation: IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying students to receive this accommodation. If all guidelines are NOT met, and the student is given Calculation Device and Mathematics Tools without proper documentation, the student’s assessment score may be invalidated, and the score would not be counted in the overall assessment results. In making decisions whether to provide the student with this accommodation, IEP teams and 504 Plan Coordinators should consider whether the student has a disability that severely limits or prevents the student’s ability to perform basic calculations, such as single-digit addition, subtraction, multiplication, or division, even after varied and repeated attempts to teach the student to do so. Before listing the accommodation in the student’s IEP/504 plan, teams should also consider whether: • The student cannot perform calculations without using a calculation device, arithmetic table, or manipulative during routine instruction. • The student’s inability to perform mathematical calculations is documented in evaluation summaries from locally administered diagnostic assessments. • The student receives ongoing, intensive instruction and/or interventions to learn to calculate without using a calculation device to ensure that they continue to learn basic calculation and fluency
Maine	Designated Feature (Math): Mathematical supports: This Designated Support is for students who need additional supports for math (e.g., abacus, number line, addition/multiplication charts, base-ten blocks, various types of counters, fraction tiles and pies without numerical labels, coins, clock with or without numbers shown on clock face; clock should not have gears, etc.).

Maryland**Accommodation (Math):**

Calculation device and mathematics tools (on calculator sections of the mathematics assessments): If a student's disability affects mathematics calculation, reasoning or access, a calculator or other mathematical tool may be needed. Some students may need to use mathematical tools such as a large print ruler, braille ruler, tactile compass, braille protractor. Sometimes other mathematical tools are needed by students with disabilities such as arithmetic tables, two-color chips, counters and counting chips, square tiles, base ten blocks, or 100s charts. Before Testing: Refer to the specific assessment's TAM or Accommodations Manual for a list of allowable calculation devices and mathematical tools. During Testing: A student uses a specific calculation device (e.g., large key, talking, or other adapted calculator) other than the embedded grade-level calculator on the calculator section of the mathematics assessment. If a talking calculator is used, the student must use headphones or be tested in a separate setting. The calculator cannot include functionality beyond the embedded grade-level calculator.

Calculation device and mathematics tools (on non-calculator sections of the mathematics assessments): The purpose of a calculation device on the non-calculator sections of the Mathematics Assessment is to provide access for students with a disability that severely limits or prevents their ability to perform basic calculations (i.e., student is unable to perform single-digit addition, subtraction, multiplication, or division). For these students, a calculation device may be used on the non-calculator and calculator sections of the mathematics assessments. The IEP or 504 plan must specify which device(s) or manipulatives. Calculation devices assist with computation. It is important to determine whether the use of a calculation device is a matter of convenience or a necessary accommodation. It is important to know the goal of instruction and assessment before making decisions about the use of calculation devices. For example, if students are learning subtraction with regrouping, using a calculator would not give students an opportunity to show regrouping. On the other hand, if students are learning problem solving skills that include subtractions (e.g., bargain shopping for items with a better value), the use of a calculation device may be a valid accommodation. Before Testing: Refer to the specific assessment's TAM or Accommodations Manual for a list of allowable calculation devices and mathematical tools. During Testing: A student uses a specific calculation device (e.g., large key, talking, or other adapted calculator) or mathematical tool on the non-calculator section of the mathematics assessment. If a talking calculator is used, the student must use headphones or be tested in a separate setting. After Testing: If all guidelines are NOT met, and the student is given a Calculation device and Mathematics Tools without proper documentation, the student's assessment score may be invalidated and the score would not be counted in the overall assessment results (i.e., the student would be considered a "non-participant" for the mathematics assessment).

Massachusetts	Accommodation (Special Access) (Math): Calculation device or other mathematics tool (including addition/subtraction or multiplication/division tables; or manipulatives) on a <i>non-calculator session</i> for Mathematics: Students taking the computer-based test will be able to use an embedded calculator (or a handheld calculator). This accommodation is intended for a small number of students with documented disabilities that severely limit or prevent them from performing basic calculations without a calculation device or other mathematics tool, as documented in locally administered diagnostic evaluations, even after varied and repeated attempts to teach the student to do so. The student must meet all of the following criteria: • be virtually unable to calculate (i.e., unable to perform single-digit addition, subtraction, multiplication, or division without a calculation device or other mathematics tool) • use the calculation device or tool during routine instruction in mathematics; and • receive ongoing intervention to learn the skill. The student's IEP or 504 plan must specify which calculation device or tool will be used (e.g., calculator or multiplication table). Manipulatives and other mathematics tools (excluding calculators and arithmetic tables) must be approved by the Department prior to their use on MCAS tests. Please contact Student Assessment Services at 781-338-3625 or mcas@doe.mass.edu (mailto:mcas@doe.mass.edu) to request approval. Students using handheld calculators to fulfill SA4 should be tested in their own group to minimize confusion during test administration.
Michigan	Accommodation: Abacus: Some students with visual impairments who typically use an abacus may use an abacus in place of using scratch paper during the assessment. Use of counters, coins, base-10 blocks or other manipulatives for solving mathematics problems: Some students may find that visual or physical objects are helpful for them in providing concreteness of mathematical concepts.

Minnesota**General Supports Available for All Students (Universal Feature) (Math, Grade 11):**

Mathematics manipulatives, multiplications table, or an abacus:

Since a calculator is allowed on all items in the grade 11 Mathematics MCA, the use of mathematics manipulatives, a multiplication table, or an abacus is considered a general support and not documented as an accommodation.

- These supports must be used in an individual setting with the online test or paper test materials.
- Mathematics manipulatives (like unifix cubes or base-10 blocks) can be the same color or different colors, but they must not be grouped or organized by the Test Monitor.
- Manipulatives that have any numbers or writing on them are not allowed. The exceptions are the multiplication and hundreds tables provided by MDE. MDE does not produce a comprehensive list of allowable manipulatives; email mde.testing@state.mn.us for specific questions about providing manipulatives for statewide testing.
- Paper versions of the multiplication and hundreds tables posted on the Mathematics Table Accommodations page of the PearsonAccess Next website (Preparing for Testing > Mathematics Accommodations) may be provided during testing. If students use the same table(s) for instruction and testing, Test Monitors must ensure that they do not have any additional writing on them before they are used for testing. If they do, a clean copy must be provided. The table(s) must be collected at the end of each test session and kept as a secure material, as students may have written parts of test items on them. Following test administration, the tables must be securely disposed of.

Note: Mathematics manipulatives, multiplication and hundreds tables, and an abacus are accommodations for grades 3–8 (refer to Table 9 for additional information).

Accommodation (Math, Grades 3–8):

Mathematics manipulatives, multiplication and hundreds tables, and an abacus:

- Mathematics manipulatives (like unifix cubes or base-10 blocks) can be the same color or different colors, but they must not be grouped or organized by the Test Monitor.
- With the exception of MDE provided multiplication and hundreds tables, manipulatives that have any numbers or writing on them are not allowed. MDE does not produce a comprehensive list of allowable manipulatives; email mde.testing@state.mn.us for specific questions about providing manipulatives.
- Paper versions of the multiplication and hundreds tables posted on PearsonAccess Next (Preparing for Testing > Mathematics Accommodations) may be provided during testing. If students use the same table(s) for instruction and testing, Test Monitors

must ensure that they do not have any additional writing on them before testing. If they do contain any writing, a clean copy must be provided. The tables must be collected at the end of each test session and kept as a secure material, as students may have written parts of test items on them. Following test administration, the tables must be securely disposed of.

The student must use a paper test book in an individual setting and only use the mathematics manipulatives, multiplication/hundreds tables, or an abacus on the segments where calculators are allowed. Note: This accommodation may be administered in a small group setting if all students require the same accommodation. There must be separation between students (such as, dividers or cubicles) to ensure students cannot view the materials being used by another student. The Test Monitor must be able to actively monitor all students in the small group.

Note that because the use of any of these accommodations requires students to move from an online test to a paper test, students lose the benefits of online testing, including access to interactive test items and an adaptive test tailored to their skill level.

A 12-point regular print test book will be automatically shipped if this code is indicated in Pretest Editing by Jan. 20; after this date, the test book must be ordered as an additional order in PearsonAccess Next. District staff must enter all student responses online within the testing window. Refer to Entering Student Responses Online for MCA Paper Accommodations earlier in this chapter.

Notes for mathematics manipulatives, multiplication/hundreds tables, or an abacus:

- Since a calculator is allowed on all sections/segments of the grade 11 Mathematics MCA, the use of any of these is not indicated as an accommodation for grade 11 Mathematics MCA.
- If a student's IEP or 504 plan indicates the use of any of these (HC) and a 12-point regular print test book (12), only one code can be indicated in Pretest Editing; a 12-point test book is automatically sent when either code is indicated by Jan. 20.
- If a student's IEP or 504 plan indicates the use of any of these (HC) and script (MS), only the MS is indicated in Pretest Editing; a 12-point test book is automatically sent when the script is indicated by Jan. 20.
- If a student's IEP or 504 plan indicates the use of any of these (HC, MS, and 12), only the MS code is indicated in Pretest Editing; a 12-point test book is automatically sent when the script is indicated by Jan. 20.
- With all paper mathematics test books, it is automatically assumed that a handheld calculator will be needed.

Missouri	Accommodation: Abacus: Students with this accommodation in their IEP/504 plan may have access to an abacus. This accommodation must be chosen in the Portal under student accommodations prior to testing.
Montana	Accommodation (Math): Abacus: This tool may be used in place of scratch paper for students who typically use an abacus. Some students, including students with visual impairments or with documented processing impairments, who typically use an abacus may use an abacus in place of using scratch paper.
Nebraska	Accommodation: Math supports: This accommodation is for students who need additional supports for math (e.g., abacus, calculation device, number line, addition/multiplication charts, base-ten blocks, various types of counters, fraction tiles and pies without numerical labels, coins, clock with or without numbers shown on clock face; clock should not have gears, etc.). Recommendations for use: Student's disability affects math calculation but not reasoning.
Nevada	Accommodation: Abacus: This tool may be used in place of scratch paper for students who typically use an abacus. Some students, including students with visual impairments or with documented processing impairments, who typically use an abacus may use an abacus in place of using scratch paper.
New Hampshire	Accommodation: Abacus: This tool may be used in place of scratch paper for students who typically use an abacus. Some students with visual impairments who typically use an abacus may use an abacus in place of using scratch paper.

New Jersey**Accommodation (Math):**

Calculation device and mathematics tools (on non-calculator sections of mathematics assessments:

Purpose: The purpose of the calculation device on the non-calculator sections accommodation is to provide access for students with a disability that severely limits or prevents their ability to perform basic calculations (i.e., student is unable to perform single-digit addition, subtraction, multiplication, or division). For these students, a calculation device may be used on the non-calculator and calculator sections of the mathematics assessments. The IEP or 504 plan must specify which device(s) or manipulatives.

Materials:

- Hand-held calculator.
- Allowable calculators for the calculator accommodation on non-calculator sections:
 - Grades 3–5: Four-function with square root and percentage functions.
 - Grades 6–7: Four-function with square root and percentage functions.
 - Grade 8: Scientific calculators (Student may also bring a four-function with square root and percentage functions in addition to grade-level calculator).
 - High School: Graphing calculators with functionalities consistent with TI-84 or similar models. (Student may also bring a scientific calculator or a four-function with square root and percentage functions).
- Allowable mathematics tools include:
 - Arithmetic tables (e.g., addition charts, subtraction charts, multiplication charts, division charts).
 - Two-color chips (e.g., single-sided or double-sided).
 - Counters and counting chips.
 - Square tiles.
 - Base 10 blocks.
 - 100s chart.
- A student with a visual impairment may need other mathematics tools, such as a large print ruler (embedded ruler is designed in 18-point font), braille ruler, tactile compass, or braille protractor. Note that braille mathematics kits will include the appropriate grade-level braille ruler and braille protractors. If a student requires mathematics tools outside of what is permitted for use, districts must complete and upload Appendix G: Unique Accommodations Request Form, via PAN, for review and approval.

During Testing: A student uses a calculation device (e.g., four-function calculator, large key, or other adapted calculator), arithmetic table (including addition/subtraction and/or multiplication/division charts), and/or manipulatives (IEP or 504 plan must specify which

device or manipulative) on the non-calculator sections of the mathematics assessments. If a talking calculator is used, the student must use headphones or be tested in a separate setting.

Important Guidelines for identifying students to receive this accommodation: IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying students to receive this accommodation. If all guidelines are not met, and the student is given Calculation Device and Mathematics Tools without proper documentation, the student's assessment score may be invalidated, and the score would not be counted in the overall assessment results (i.e., the student would be considered a "non-participant" for the mathematics assessment.)

In making decisions whether to provide the student with this accommodation, IEP teams and 504 Plan Coordinators should consider whether the student has:

- A disability that severely limits or prevents the student's ability to perform basic calculations (i.e., single-digit addition, subtraction, multiplication, or division), even after varied and repeated attempts to teach the student to do so.

Before listing the accommodation in the student's IEP/504 plan, teams should also consider whether:

- The student is unable to perform calculations without the use of a calculation device, arithmetic table, or manipulative during routine instruction.
- The student's inability to perform mathematical calculations is documented in evaluation summaries from locally-administered diagnostic assessments.
- The student receives ongoing, intensive instruction and/or interventions to learn to calculate without using a calculation device, in order to ensure that the student continues to learn basic calculation and fluency.

For a student who receives this accommodation, no claims should be inferred regarding the student's ability to perform basic mathematical calculations without the use of a calculator.

New Mexico**Accommodation (Math):****Mathematics tools (non-calculator sections):**

Purpose: The purpose of the mathematics tools on the non-calculator sections accommodation is to provide access for students with a disability that severely limits or prevents their ability to perform basic calculations (i.e., student is unable to perform single-digit addition, subtraction, multiplication, or division). For these students, a calculation device may be used on the non-calculator AND calculator sections of the mathematics assessments. The IEP or 504 plan must specify which device(s) or manipulatives.

Allowable mathematics tools include:

- Arithmetic tables (e.g., addition charts, subtraction charts, multiplication charts, division charts).
- Two-color chips (e.g., single-sided or double-sided).
- Counters and counting chips.
- Square tiles.
- Base 10 blocks.
- 100s chart.

A student with a visual impairment may need other mathematics tools, such as a large print ruler (embedded ruler is designed in 18-point font), Braille ruler, tactile compass, or Braille protractor.

During Testing: A student uses a calculation device (e.g., four-function calculator, large key, or other adapted calculator), arithmetic table (including addition/subtraction and/or multiplication/division charts), and/or manipulatives (IEP or 504 plan must specify which device or manipulative) on the NON CALCULATOR SECTIONS of the mathematics assessments. If a talking calculator is used, the student must use headphones or be tested in a separate setting.

Important Guidelines for identifying students to receive this accommodation: IEP teams and 504 Plan Coordinators should carefully review the following guidelines before identifying students to receive this accommodation. If all guidelines are NOT met, and the student is given Calculation Device and Mathematics Tools without proper documentation, the student's assessment score may be invalidated and the score would not be counted in the overall assessment results (i.e., the student would be considered a "non-participant" for the mathematics assessment.)

In making decisions about whether to provide the student with this accommodation, IEP teams, and 504 Plan Coordinators should consider whether the student has:

- A disability that severely limits or prevents the student's ability to perform basic calculations (i.e., single-digit addition, subtraction, multiplication, or division), even after varied and repeated attempts to teach the student to do so.

Before listing the accommodation in the student's IEP/504 plan, teams should also consider whether:

- The student is unable to perform calculations without the use of a calculation device, arithmetic table, or manipulator during routine instruction.
- The student's inability to perform mathematical calculations is documented in evaluation summaries from locally-administered diagnostic assessments.
- The student receives ongoing, intensive instruction and/or interventions to learn to calculate without using a calculation device, in order to ensure that the student continues to learn basic calculation and fluency.

For a student who receives this accommodation, no claims should be inferred regarding the student's ability to perform basic mathematical calculations without the use of a calculator.

New York

Accommodation:

Abacus

North Carolina

Accommodation:

Cranmer abacus:

Description: The Cranmer abacus is a tool that may be used as a testing accommodation. The Cranmer abacus is not a substitute for a calculator but can serve as a paper substitute for some students. **Checking the Cranmer abacus:** If the student is using a personal abacus, the test administrator may need to remind the student to bring the abacus to the testing session. **Before the start of the test,** the test administrator is to check that the abacus is in proper working order. **Student operates the Cranmer abacus:** Only the student is permitted to operate the abacus during the test. **Role of the IEP team or Section 504 committee and recording student responses:** Upon completion of a task on the abacus, the student is responsible for proofreading and recording the answer by use of the method for which the IEP team or Section 504 committee deemed the student eligible. If a scribe is used, the scribe must transcribe responses verbatim from the student and may not prompt or question the student or correct a student's responses. **Collecting, storing, and processing test materials:** Unless the Cranmer Abacus accommodation has been used in conjunction with another accommodation that requires special handling, the test administrator must follow the regular procedures for processing test materials.

North Dakota	Designated Feature: Abacus: This accommodation may be used in place of scratch paper for students who typically use an abacus. Recommendations for use: Some students with visual impairments.
Ohio	Accommodation: Mathematics tools: Mathematics tools only are allowed on math and science tests. The student uses these tools and manipulatives to assist mathematical problem solving. These manipulatives allow the flexibility of grouping, representing or counting without numeric labels. Allowable mathematics tools as accommodations include: • 100s chart • Abacus/Rekenrek • Algebra tiles • Base 10 blocks • Counters and counting chips • Cubes • Fraction tiles and pies without numerical labels • Square tiles • Two-colored chips Tools that give students answers (for example, fraction tiles with numerical labels) or lead a student to use a specific strategy (for example, number lines) are not allowed. These types of tools can be effective for instruction and while students may create their own during testing as a strategy, they may not be provided to students on Ohio's state tests. For information about fact charts, see calculation device or fact charts on non-calculator mathematics test or part of test in this section. Information about rulers, angled-rulers, compasses and protractors is located in the non-embedded designated supports section of this manual. The Department will review and revise this list annually as needed.
Oklahoma	Accommodation: Use of an abacus: Students who have a visual impairment/blindness or access mathematical calculations tactilely may use an abacus.

Oregon**Designated Feature (Math):**

Abacus: The abacus, also called a counting frame, is a calculating tool. This tool may be used by students who typically use an abacus.

Manipulatives: Manipulatives used during testing must be listed in this table and should be used during instruction so they are familiar to students. Using manipulatives not included in this list will result in a testing impropriety and student test invalidation. Manipulatives are tactile tools that provide concrete representations of mathematical ideas. Allowable manipulatives (see Appendix F for images):

- Algebra tiles
- Base-ten blocks or pieces
- Colored chips, including those with positive and negative sides
- Colored tiles
- Counters (e.g., beans, blocks, craft sticks, tiles, or similar)
- Cuisenaire rods
- Dot paper (square or hex)
- Fraction strips or fraction pieces (unlabeled only)
- Geoboard and bands
- Geometric shapes (2D and 3D)
- Interlocking cubes (e.g., Unifix, Omnifix)
- Number rack (e.g., rekenrek)
- Pattern blocks
- Trays, containers, or bags for storage and/or sorting

Designated Support (Science):

Abacus: The abacus, also called a counting frame, is a calculating tool. This tool may be used by students who typically use an abacus. Manipulatives are tactile tools that provide concrete representations of mathematical ideas. Allowable manipulatives (see Appendix F for images):

- Algebra tiles
- Base-ten blocks or pieces
- Colored chips, including those with positive and negative sides
- Colored tiles
- Counters (e.g., beans, blocks, craft sticks, tiles, or similar)
- Cuisenaire rods
- Dot paper (square or hex)
- Fraction strips or fraction pieces (unlabeled only)
- Geoboard and bands
- Geometric shapes (2D and 3D)

- Interlocking cubes (e.g., Unifix, Omnifix)
- Number rack (rekenrek)
- Pattern blocks
- Trays, containers, or bags for storage and/or sorting

Additional manipulatives may be requested through the process described in Appendix F. The intent of this support is to make students' testing environment more consistent with their learning environment. **RECOMMENDATIONS FOR USE:** Students who benefit from the use of manipulatives during instruction may use this support during their assessment.

Manipulatives are available to help students think, not to give them answers. **Guidelines for Administration:** Manipulatives must neither directly provide students with answers nor identify the process by which students may determine the answer. Manipulatives must be provided to the student in a tray, container, or bag before testing begins. Manipulatives must be stored at the student's testing area to minimize movement. Manipulatives must not be labeled (e.g., fractions, decimals, numerals, text). Students must work individually with manipulatives. Students are not to be coached as to which manipulatives to use, nor on how to use them. The use of this designated support may result in additional logistical considerations for the testing environment.

Pennsylvania

Accommodation (Math):

Manipulatives: A ruler is provided for Grade 3 students. A protractor is provided for Grade 4 students. For students taking the test on paper, a ruler or protractor is provided. For students taking the test online, the system has a built-in ruler or protractor. A high contrast ruler/protractor or tactile ruler/protractor may be used for students with an IEP or 504 and must be provided by the LEA. High contrast/tactile rulers provided by the LEA for the Grade 3 Math PSSA should measure 6 inches at 1/8 inch increments, and 15 centimeters at 1/10 centimeter increments. High contrast/tactile protractors provided by the LEA for the Grade 4 Math PSSA should show 0–180 degrees both clockwise and counterclockwise. No math tools are provided with Keystone Exam materials; student may use a straight edge tool (not a ruler) for the Algebra I exam. Cranmer abacus and Math Window may be used for Braille users only. A number grid or hundreds chart is not allowable. Teacher created manipulatives are not permitted on any portion of the PSSA or Keystone exams.

Rhode Island

Accessibility Feature (Universal Feature) (Science):

Mathematics tools: Student uses arithmetic tables for addition, subtraction, multiplication, and division, including an abacus or other manipulatives.

Accommodation (Math):

Mathematics tools

South Dakota	Accommodation: Abacus: This tool may be used in place of scratch paper for students who typically use an abacus. Some students, including students with visual impairments or with documented processing impairments, who typically use an abacus may use an abacus in place of using scratch paper.
Tennessee	Accommodation (Math): Visual representations for math: Test administrator ensures the student has access to the necessary manipulatives for testing (e.g., abacus, cubes, tiles, rods, or blocks). This would not include things such as multiplication charts/tables, number lines, etc. typically used by students with math deficits who are not visually impaired. This accommodation is only applicable for students with a visual impairment and may not be used on the non-calculator sections of the assessment. This accommodation may be used in place of scratch paper for students who typically use an abacus or other manipulatives.

Texas	Designated Feature (Math): This designated support allows a student to use concrete objects or pictures of concrete objects that the student can touch and move to visualize abstract concepts. A student may use the mathematics manipulatives if that student: • Routinely, independently, and effectively uses them during classroom instruction and classroom testing. The mathematics manipulatives designated support may include only the following items: • Real or play money (both heads and tails) • Clocks with or without numbers shown on the clock face; the clock should NOT have gears. • Base-10 blocks • Various types of counters (e.g., two-sided chips, blocks, numerals with printed or raised dots) • Algebra tiles; the tiles should NOT contain words, labels, pictures, acronyms, mnemonics, numbers, symbols, or variables. • Fraction pieces (e.g., fraction bars, fraction circles); the fraction pieces should NOT contain labels (e.g., labels that show individual fractions, equivalencies, or cumulative sequences). • Geometric figures that are grade- or course-appropriate; the figures may be provided in either three-dimensional form or two-dimensional form but NOT in both forms; the figures should NOT contain words, labels, colors used as labels, pictures, acronyms, mnemonics, numbers, symbols, or variables. Providing a pictorial model of a geometric figure in one form (e.g., net) and a supplement aid of the same figure in another form (e.g., three-dimensional solid) is NOT allowed.
Utah	Accommodation (Math): Visual representation/manipulatives: Visual representations are manipulatives such as cubes, tiles, rods, blocks, models, etc. They may be used on all sections of the mathematics assessment if they are included in the student's IEP or 504 Plan.
Vermont	Accommodation: An abacus is provided to students by their school based on those used by students for routine classroom instruction. A locally provided abacus may be used in place of scratch paper.

Virginia	Accommodation (Math): Math aids: Students with disabilities may use approved math aids on Mathematics assessments if the accommodation is documented in the student's IEP or 504 Plan as a testing accommodation. Examples of approved math aids include: number lines, colored shapes, and fraction circles. For a complete list of both approved and not approved math aids, refer to the document Explanation of Testing Accommodations for Students with Disabilities – Math Aids Accommodation Code 19, available on the Virginia Department of Education website.
Washington	Accommodation: Abacus: This accommodation may be used in place of scratch paper for students who typically use an abacus. Students with visual impairments or with documented processing impairments may benefit from using the abacus accommodation.
West Virginia	Accommodation: Abacus: This tool may be used in place of scratch (lined or unlined paper) paper for students who typically use an abacus. Students use items to count during their instruction. Counting devices (blocks, tiles, chips, etc.) or scratch (lined or unlined paper) paper are utilized to assist the student with mathematical concepts. Some students with visual impairments who typically use an abacus may use an abacus in place of using scratch (lined or unlined paper) paper. The abacus should be one the student uses during instruction on a regular basis.
Wisconsin	Accommodation: Abacus: This tool may be used in place of scratch paper for students who typically use an abacus. Some students with visual impairments use an abacus in place of using scratch paper.
Wyoming	Accommodation: Abacus: This tool may be used in place of scratch paper for students who typically use an abacus. Some students with visual impairments who typically use an abacus may use an abacus in place of or in addition to scratch paper.

Footnotes

▶ [1]

States' accessibility policies on manipulatives were obtained through the examination and analysis of publicly available information, including accommodations manuals or other policy documents, on state department of education websites. The policies were gathered from states' websites between August and September 2023. The information in the tables from each state was coded based on information in the state policy.

▶ [2]

Universal Features are available to all students as they access instructional or assessment content. *Designated Features* are available to any student as long as an educator (or team of educators, with student and parent input) indicates that they would be helpful given the student's characteristics and needs. *Accommodations* are changes in procedures or materials to ensure equitable access to instructional and assessment content and generate valid assessment results for students who need them. Accommodations are generally available to students for whom there is documentation on an individualized education program (IEP) or 504 accommodations plan; some states also have offered accommodations to English learners.

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Quanbeck, M., & Lazarus, S. S. (2024). *Manipulatives: States' accessibility policies, 2023* (NCEO Accommodations Toolkit #12b.1). National Center on Educational Outcomes.

NCEO is supported through a Cooperative Agreement (#H326G210002) with the Research to Practice Division, Office of Special Education Programs, U.S. Department of Education. The Center is affiliated with the Institute on Community Integration at the College of Education and Human Development, University of Minnesota. Consistent with EDGAR §75.62, the contents of this report were developed under the Cooperative Agreement from the U.S. Department of Education, but do not necessarily represent the policy or opinions of the U.S. Department of Education or Offices within it. Readers should not assume endorsement by the federal government. Project Officer: David Egnor